Indo-US Financial Institutions Reform and Expansion Project - Debt Market Component FIRE(D)

Project Notes

Note No. 13
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The Tiruppur Area Development Program

Focus on Urban Infrastructure and Private Sector Participation

As the liberalization of India's economy continues, the critical role of urban environmental infrastructure in economic development is coming to the fore. In the industrial town of Tiruppur, the private sector, with the support of the state government, took the initiative to form India's first public limited company to implement a water supply and sewerage project — a project which will not only meet the growing demand of the city's industrial users but increase the supply to domestic consumers and provide the city of Tiruppur with its first sewerage system. This Project Note describes the evolution of the Tiruppur Area Development Program, the private and public sector partners involved in its development and the innovations this project brings to the urban infrastructure sector.

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Economic Growth and Urban Environmental Services

Over the past decade, the city of Tiruppur has emerged as the largest exporter of cotton knitwear in India, producing 75% of India's knitwear exports. Between 1985 and 1996, the value of the city's exports grew by a factor of nearly 200 to Rs. 35 billion — remarkable growth, achieved despite a very low level of city services. But due to this tremendous growth, as well as the migration of workers into the city, the demand for services and the stress on infrastructure also multiplied over this time.

The municipality of Tiruppur and surrounding villages suffered greatly from inadequate levels of infrastructure. The low level of water supply, the absence of sewage collection and treatment systems, poor and congested roads, inadequate solid waste collection and insufficient power supply resulted in poor living and working conditions. Improper waste management resulted in contaminated water bodies and aquifers. But the city's economic interests suffered as well. Water is key to the operation of the knitwear industry, and because the city's supply was insufficient, industries turned to groundwater resources and private tankers charging inflated rates. This situation inhibited growth and investment in the area, and ultimately it was the city's private sector that took the initiative to develop a water supply and sewerage system which would meet the needs of both domestic and industrial users.

Project Development

In 1990, the Tiruppur Exporters Association (TEA) joined with the people of Tiruppur to request that the Government of Tamil Nadu (GoTN) take action to improve Tiruppur's infrastructure. As a result, the Chief Minister of the state created a High Level Committee under the chairmanship of the state's Chief Secretary to promote rapid implementation of a development program in that area.

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Progress was slow, however, and responsibility was given to the newly formed Tamil Nadu Corporation for Industrial Infrastructure Development Limited (TACID). TACID developed an integrated area development project and invited Infrastructure Leasing and Financial Services Limited (IL&FS), a private company, to assist in implementing commercially viable projects. It was these three partners — TACID, TEA and IL&FS — who worked together, with technical assistance from the FIRE(D) Project, to design components of the program as public-private partnerships.

With a focus on water supply and sewerage, IL&FS took the lead and prepared a feasibility and investment banking report, detailed technical designs and costing, which provided details of the technical proposals, costs, revenue potential, financing strategy, commercial viability, institutional arrangements, implementation structure and risk management plan. An Environmental and Social Report was also prepared. Combining an environmental impact assessment and a review of rehabilitation and resettlement concerns, the goal of the assessment was to identify and minimize any negative impacts of the project.

The Project Implementation Structure

The GoTN did not have adequate resources to finance and implement the TADP itself, nor was it possible for the municipality of Tiruppur, with its small annual budget and limited management capacity. To implement the TADP, therefore, the New Tiruppur Area Development Corporation Limited (NTADCL) was created in 1995 as a public limited company with equity holders consisting of the Government of India, TACID, TEA and IL&FS. In the urban infrastructure sector, this is a unique institutional structure in which both public and private sector institutions — including the principal beneficiaries — have joined together to finance and implement an urban environmental infrastructure project.

The NTADCL will act as a BOT operator and enter into a concession agreement with GoTN, under which the NTADCL is responsible for implementation, operation and maintenance of the TADP. In return, the NTADCL receives the right to revenue streams from the industrial users and bulk supply to the municipality, to meet its costs.

The NTADCL, in turn, will contract its obligations to construct and maintain the new systems to a BOT operator from the private sector. This operator will be responsible for transmission, treatment of water supply, distribution of water outside municipal limits where most industries are located, and treatment of the collected sewage, and maintenance of the sewage treatment plants. The operator will also supply bulk water to the Municipal Council, which manages distribution systems within the municipal limits.

Selecting a BOT Operator

The NTADCL appointed technical and engineering consultants to prepare a technical specifications report and enlisted legal assistance from domestic and international lawyers to prepare drafts of key contracts. The NTADCL also prepared a Request For Proposals (RFP) document to be issued to potential BOT operators, which contained detailed technical specifications, a financial feasibility report, drafts of key contracts, instructions to bidders, evaluation criteria and bid proposal forms. The contractual framework, the most critical part of a BOT project, contains six major agreements which enable financing and determine the level of risks investors and lenders. These also detail allocation of responsibilities, risks and recourse measures.

The NTADCL then initiated an international competitive bidding process for the award of the construction, operation and maintenance contracts for the TADP in December, 1997 with the issue of a global pre-qualification notice. In the first stage, nine consortia were prequalified, based on their experience with construction of similar projects, capacity to operate infrastructure systems and financial strength. Next, a short list of 4 consortia was prepared based on the ability to build the facilities on time, to specifications and within cost; the ability to operate the facilities according to international standards; and the ability to finance construction period costs.

In the third stage, an RFP was issued to those on the short list, requesting a detailed proposal covering engineering design, financial commitments, price of delivered water and supporting financial statements and bid security. The bidders were asked to submit separate technical and financial bids. Responses to the RFP were received in August, 1997, and one bidder was selected. Final negotiations are underway and the contracts are expected to be signed in early 1999.

Project Profile

The Tiruppur Area Development Program (TADP) encompasses a variety of infrastructure investments including water supply and wastewater management as well as roads and telecommunications. Water supply and sewerage components were identified initially to be implemented in a commercial format. When it is commissioned, this project will increase the total piped water supply from 54 mld at present to 239 mld, serving industries and households of the Tiruppur Master Plan Area and surrounding villages. And the sewerage system, Tiruppur's first, will serve the entire municipality.

Water Supply

The water supply scheme was designed to serve an ultimate demand of 126 mld from industry and 93 mld from households. Comprised of headworks, a treatment plant, conveyance mains, service reservoirs, booster stations, distribution systems and other appurtenances, the supply scheme includes withdrawal of 185 mld of water from the confluence of the Bhawani and Cauvery Rivers about 55 kilometers from Tiruppur.

Eventually, the water supply system will serve a popu-

Innovations of the
Tiruppur Area Development Program Water Supply and Sewerage Project

The TADP introduces the first public-private partnership for a water supply and sewerage project in India and brings a number of other innovations to this sector.

- The first water supply and sewerage project to be structured in a **commercial format**
- The first **project-specific public limited company** for water and sewerage with **equity participation** of major beneficiaries, state and central governments and financial institutions
- The first **concession** by a state government to a public limited company to draw raw water for domestic and industrial uses and to collect revenues
- The first **index-based user charges** and direct **cost recovery** for urban environmental services
- **Construction, operations and maintenance** of infrastructure and related services by experienced domestic and international operators

lation of 1.4 million by 2030, and residents of the city will be supplied with 60 lpcd — a level far above the current meager supply. This level of supply meets the norms set by the Tamil Nadu Water Supply Board.

At the same time, local industry will be provided with a supply of reliable, high quality water, and will be freed from dependency on expensive water vendors and individual bore wells, realizing economic benefits as well as enhancing the recharge of groundwater resources.

Sewerage

The new sewerage system will serve a population of 639,500 in the town by the year 2030 and will have the capacity to treat 50 mld of household sewage. It will consist of a collection system, pumping stations and two sewage treatment plants. Low cost sanitation facilities, including water closets and septic tanks connected to the sewerage system, will also be provided for 88 slum areas, with a population of 57,780 (about one quarter of the city's population).

The original TADP was to include an industrial effluent collection and treatment system but this component is now expected to be provided through other means. The bleaching and dyeing units in Tiruppur had been placed under a court order to provide for the collection and treatment of their effluent. By mid-1998, however, these industries had not done so, and the Madras High Court directed the Tamil Nadu Pollution Control board to take immediate action. Because the collection and treatment component of the TADP could not be constructed in time to comply with this new order, the component was deleted from the TADP design and these units are now constructing their own effluent plants.

Financing Plan and Financial Viability

The total cost of the TADP, inclusive of escalation and interest during construction, is estimated at $200 million. The project will be funded through a combination of debt and equity, with participation of both the public and private sectors. On the equity side, holders will be the Government of India, TACID, TEA, IL&FS and the private sector BOT operator.

Debt will be raised through financial institutions, the capital markets, and a loan from IL&FS. IL&FS has obtained a $25 million loan through USAID's Housing Guaranty Program which guaranties a loan through the US market for a term of 30 years. This long term debt has enabled NTADCL to improve the financial viability of the project, and the debt/equity ratio is expected to be 2:1.

Recovery of investments will be achieved through a composite water charge which is the result of cross-subsidization among industrial and domestic users. Gross revenues each quarter (excluding O&M expenses and taxes) will first be appropriated towards payment to lenders and then to equity holders. Any shortfalls will be added to the total cost of project, and surpluses will likewise be deducted from total cost.

The financial viability of the project is based on an assessment of the demand for water by both households and industry, which indicated a willingness to pay by both parties. Pricing for industry has been determined on an opportunity cost basis, based on rates currently paid to private tankers, while pricing for the domestic sector is based on current pricing practices in the state. These charges will enable the project to recover capital and maintenance costs of the water supply as well as the sewerage systems.

Support from the FIRE(D) Project

While the FIRE(D) Project provided targeted project development support to the TADP partners, it also provided broader training and capacity building to these partners and to the city of Tiruppur.

Project Development

The FIRE(D) Project team recommended a Project Report format to IL&FS for submission to USAID for HG funding, and then reviewed the Project Report. FIRE(D) also provided technical assistance in the identification of project risks and the preparation of a mitigation plan. At the request of IL&FS, the FIRE(D) team reviewed the bid documents and assisted in developing a bid evaluation framework.

Capacity-Building

Looking beyond the TADP, FIRE supported the training of IL&FS officials in development of private public partnerships in water and waste water projects and the negotiation and financing of investments in infrastructure projects. The FIRE(D) team also provided technical assistance and training to Tiruppur Municipality to improve its capacity to deliver urban services and mobilize resources.

The FIRE(D) team worked with city officials to conduct several assessments related to infrastructure priorities, pricing and cost recovery and consumer demand. A City Infrastructure Priorities Assessment provided an estimation of infrastructure requirements, financial projections and a prioritization of service provision options. An assessment of Pricing and Cost Recovery issues suggested three strategic options based on the target of achieving full cost recovery for water supply over a period of eight years. And a Demand Assessment, assessing consumer demand and willingness to pay for water supply and sewer services.

The FIRE(D) team also carried out a training needs assessment of the city and assisted the Tamil Nadu Institute of Urban Studies to conduct a series of training activities for the council in the areas of water supply and drainage, solid waste management and resource mobilization. And at the request of the Municipal Council, the FIRE(D) team also provided assistance to improve municipal accounting and to enhance presentation of the municipal budget.

To promote successful innovations by other Indian cities, the FIRE(D) Project sponsored a study tour for the Tiruppur Municipal Council and elected women Councilors to learn about innovative programs in solid waste management, slum upgradation, community based financial systems and low cost sanitation in the cities of Delhi, Ahmedabad, Baroda and Surat. Some of these innovations are now being implemented in Tiruppur. With the active participation of the municipal councilors, local NGOs and representatives of business and trade associations, the FIRE(D) team facilitated development of a solid waste management strategy which now has been approved for implementation by the municipal council.

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This Project Note was written by Chetan Vaidya, Senior Municipal Administration Advisor to the FIRE(D) Project, and draws on a presentation by IL&FS entitled "Tiruppur Area Development Project" delivered July 15, 1997.

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The mission of the Indo-US FIRE (D)Project is to foster the development of a commercially viable urban infrastructure finance system to finance improvements in environmental services for all citizens, including the urban poor. It is being implemented through four objectives:

- Development of commercially viable urban environmental infrastructure projects in selected demonstration cities;
- Development of a commercially viable urban environmental infrastructure finance system;
- Improvement of municipal financial management as well as the administration of environmental services in demonstration cities;
- Strengthening the capacity of public and private sector professionals and technicians to achieve these objectives.

This new approach, which emphasizes commercial viability, enables Indian cities and urban authorities to respond more effectively to the greatest needs: increasing access to services and improving service levels. Significant benefits for the poor, in particular, can be achieved through a commercial orientation.

USAID is assisted in implementation of this project by Community Consulting International (CCI), a US firm with an office located in New Delhi. This assistance is provided through a task order issued by USAID under its contract with the International City/County Management Association (ICMA).

Community Consulting International, India
E 3/4 Vasant Vihar
New Delhi 110 054, India
Tel: (91-11) 614-3551 or 614-9836
Fax: (91-11) 614-1420 or 614-4480

Regional Urban Development Office
USAID/New Delhi
B-28 Institutional Area
New Delhi 110 016, India

Community Consulting International
1012 N Street, NW
Washington, DC 20001-4297, USA

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